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Opening Up British Columbia

The Potential of Energy and Mining Development to Power our Economic Future

BRITISH COLUMBIA

Overview and Purpose

105-04423/

- Discuss benefits and impacts of energy and mineral development
- Discuss possible future developments near your community
- Help you understand the development process

BRITISH COLUMBIA

New Focus of MEM

- Encourage investment in energy and mining exploration
- Streamline process & reduce red tape
- Maintain low-cost energy for BC
- Regulate and permit
- Ensure health and safety
- Undertake geoscience initiatives
- Initiate proactive stakeholder relations

Resource Industry Benefits

- Funds health, education, roads, services
- Creates regional jobs and economic development
- Keeps energy costs low for British Columbians
- Attracts worldwide investment

BC Government Spending

TOTAL: $25.4 billion

BRITISH COLUMBIA

Provincial Revenue Sources

Crown Corporations and Investment Earnings (7.5%)

Natural Resources (13%)

Federal Transfer Payments (12.5%)

Miscellaneous (3.5%)

Taxes, Fees and Licences (63.5%)

TOTAL: $24.9 billion

BRITISH COLUMBIA

Mining

- BC is one of the world's largest mining regions
- We must refocus on exploration
- Potential exists throughout BC
- BC government is showing support by:
  - Streamlining regulations
  - Creating incentives for investors
  - Maintaining low electricity rates

BRITISH COLUMBIA

Mining

Ministry of
Energy & Mines

BRITISH COLUMBIA

Oil and Gas Facts

- Employs 32,000 British Columbians
- BC production increased 85% in 10 years while U.S. remained static
- Ladyfern in Northeast BC was one of Canada's richest discoveries
- Northeast BC is most active, but unexplored basins exist off the West Coast, in the North and Central Interior, and in the Southeast

Legend
Smithers
Victoria

BRITISH COLUMBIA

Oil & Gas

Ministry of
Energy & Mines

BRITISH COLUMBIA

Coalbed Methane

- New growth area in BC's oil and gas industry
- Almost pure methane, cleaner than conventional natural gas
- Producers send it to market with minimal processing
- BC's resource base is estimated at about 90 trillion cubic feet
- Coalbed methane is 7% of total natural gas production U.S

Legend
Major Gas Plant
Oil Refinery
Gas Pipeline
Oil Pipeline
Alliance Pipeline
Sedimentary Basins
COALFIELDS
Total Estimated Energy Resources
110 (tcf) Conventional Natural Gas
89 (tcf) Coalbed Methane
Dease Lake
Stewart
Smithers
Prince Rupert
Fort St. John
Tumbler Ridge
Prince George
Williams Lake
Kamloops
Port McNeill
Courtenay
Nanaimo
Vancouver
Princeton
Victoria
Cranbrook
Sparwood
Fernie

BRITISH COLUMBIA

Coalbed Methane

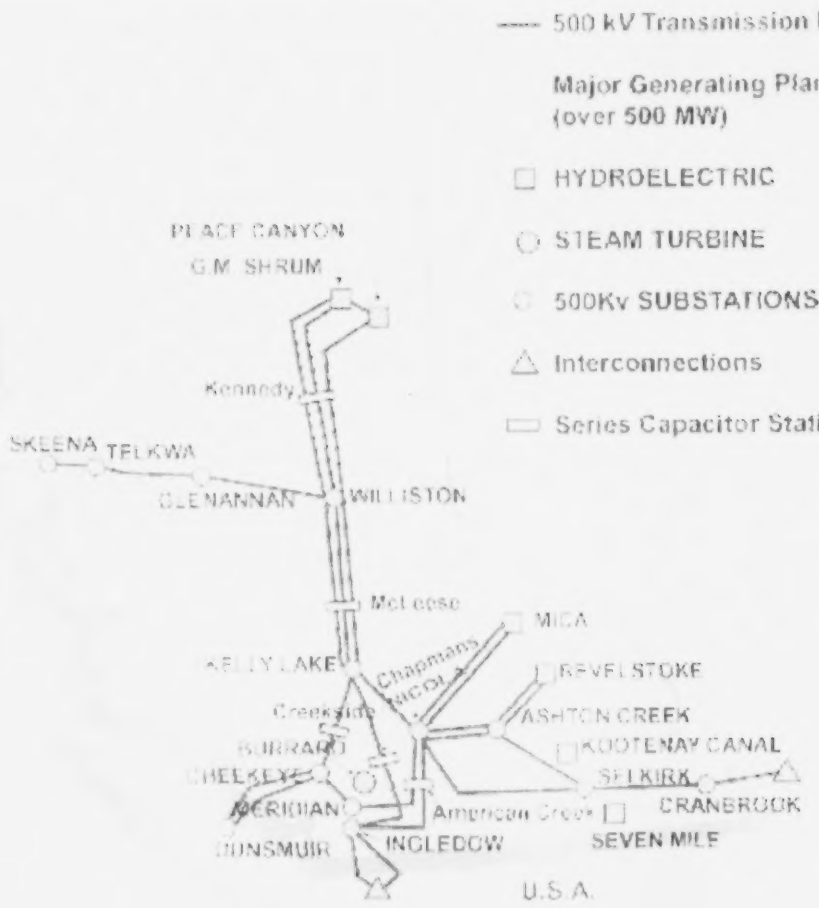
BRITISH COLUMBIA

Electric Power

- BC Energy Plan to increase private sector investment in energy
- Split generation from transmission
- Encourage independent power production
- Small hydro first to respond
- Permits coal-fired generation – new coal emission guidelines released

BRITISH COLUMBIA

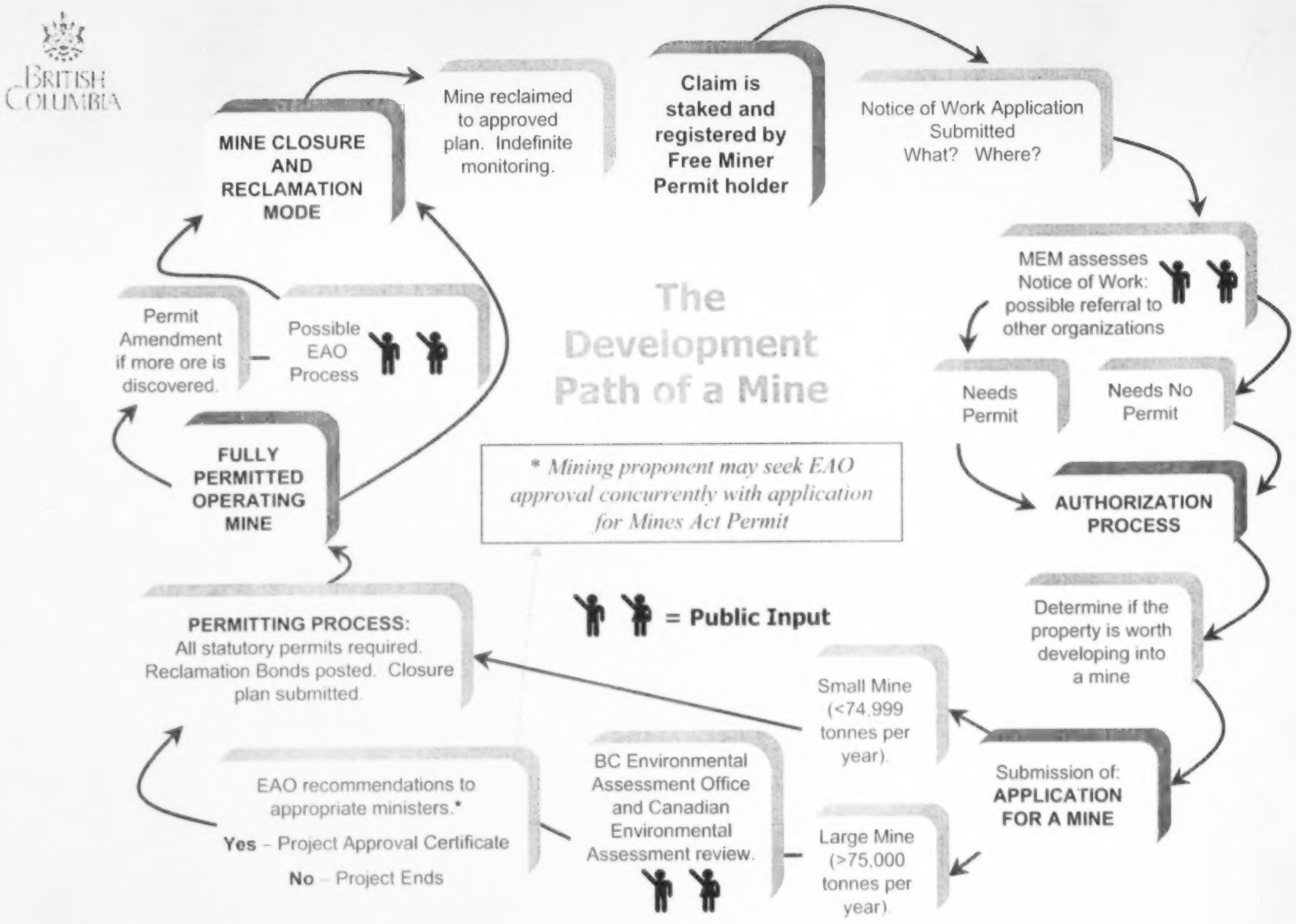
Electric Power

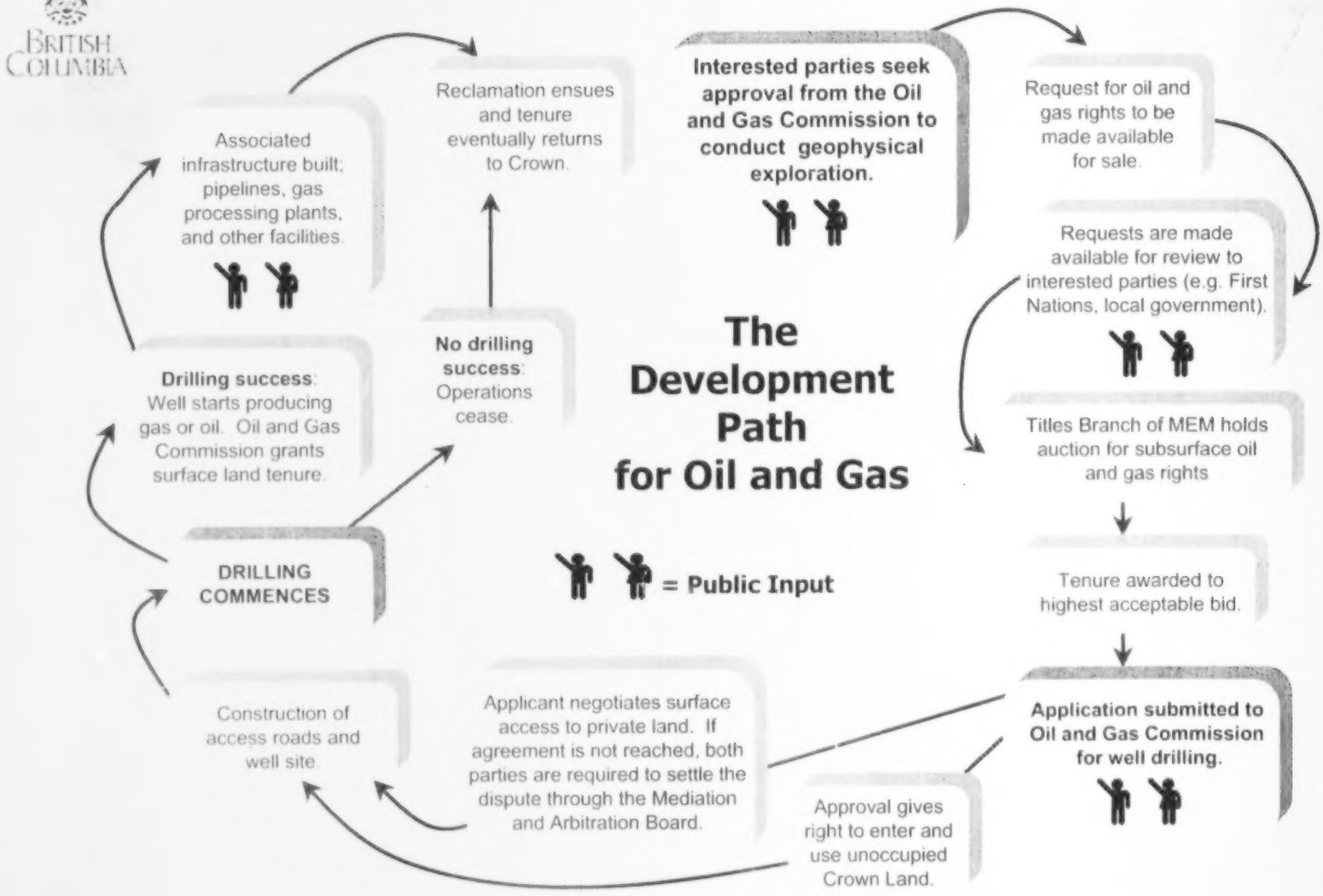


BRITISH COLUMBIA

Clean, Alternative Energy

- Wind, tidal, wave and geothermal energy
- Small and micro-hydro (run-of-river projects)
- Innovative technologies such as fuel cells
- Cogeneration projects – produce electricity and useful waste heat simultaneously
- Target – 50% of new electricity generation to come from "green" or alternative sources


BRITISH COLUMBIA
The Development Path of a Mine
Claim is staked and registered by Free Miner Permit holder
Notice of Work Application Submitted
What? Where?
MEM assesses Notice of Work: possible referral to other organizations
Needs Permit
Needs No Permit
AUTHORIZATION PROCESS
Determine if the property is worth developing into a mine
Submission of: APPLICATION FOR A MINE
Small Mine (<74,999 tonnes per year).
Large Mine (>75,000 tonnes per year).
BC Environmental Assessment Office and Canadian Environmental Assessment review.
EAO recommendations to appropriate ministers.*
Yes – Project Approval Certificate
No – Project Ends
PERMITTING PROCESS:
All statutory permits required. Reclamation Bonds posted. Closure plan submitted.
= Public Input
* Mining proponent may seek EAO approval concurrently with application for Mines Act Permit
FULLY PERMITTED OPERATING MINE
Permit Amendment if more ore is discovered.
Possible EAO Process
MINE CLOSURE AND RECLAMATION MODE
Mine reclaimed to approved plan. Indefinite monitoring.


Interested parties seek approval from the Oil and Gas Commission to conduct geophysical exploration.
Request for oil and gas rights to be made available for sale.
Requests are made available for review to interested parties (e.g. First Nations, local government).
Titles Branch of MEM holds auction for subsurface oil and gas rights
Tenure awarded to highest acceptable bid.
Application submitted to Oil and Gas Commission for well drilling.
Approval gives right to enter and use unoccupied Crown Land.
Applicant negotiates surface access to private land. If agreement is not reached, both parties are required to settle the dispute through the Mediation and Arbitration Board.
Construction of access roads and well site.
DRILLING COMMENCES
Drilling success: Well starts producing gas or oil. Oil and Gas Commission grants surface land tenure.
No drilling success: Operations cease.
Reclamation ensues and tenure eventually returns to Crown.
Associated infrastructure built; pipelines, gas processing plants, and other facilities.
The Development Path for Oil and Gas
= Public Input

Williams Lake Region

- Mines – Gibraltar, Mount Polley, QR
- Future Mining Development
  - Prosperity project
  - Placer mining
- Mineral exploration
  - Likely and Horsefly areas
  - Copper and VMS prospects

BRITISH COLUMBIA

What This Means to You

	Exploration Construction Phase – Jobs	Operational Phase – Jobs
CBM	100 to 200 per field	20 to 50 per field
Conventional Oil and Gas	75 per rig	N/A
Small Underground Gold Mine	70 to 150	110
Large Open Pit Copper Mine	300	405
Coal Mine	100 to 500	1000
Industrial Minerals	N/A	6 to 25 jobs per $1 million in sales

Source: Ministry of Sustainable Resource Management Estimates

BRITISH COLUMBIA

Discussion Items

- What are the Challenges?
  - Identifying/attracting the investment capital
  - Workforce and skill sets
  - Establishing working relationships with First Nations
  - Public support for resource development
  - Debates over land use
  - Competing economic and environmental goals

CONTACT

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www.gov.bc.ca/em

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BRITISH COLUMBIA

Ministry of Energy & Mines

BC's Energy and Mineral Potential - Public Meetings and Open House
SUMMARY REPORT

Date	March 25, 2003
Location	Williams Lake

Ministry of Energy Mines Presenter	Michael Carter Assistant Deputy Minister Resource Development	**Ministry of Energy & Mines Representatives**	James Marshall Manager, External Relations Branch Mark Hayes Manager, Resource Geology New Ventures Branch
Total # of participants (open house)	43	**Total # of participants (session)**	57

Summary of Open House and Session

Overall - Key Issues Raised	· Mining operations must develop a positive relationship with First Nations, and the Ministry and local communities must play a role in developing that relationship · Meetings such as this are positive because they foster the working relationship necessary between the provincial government and the local community to encourage investment into the region · Mining, in particular placer mining, makes a significant contribution to the regional economy and placer operations can be developed quickly and in an environmentally responsible way · Online mapping is going to undermine the role of the prospector in discovering new ore bodies and complicate the claims process

	Placer Mining · Overlapping government jurisdictions and competing uses for land are seriously complicating placer mining · Intrusion of the federal government, in particular the DFO, is seriously complicating placer mining and the provincial government is not doing enough to protect the interests of placer miners with respect to the DFO

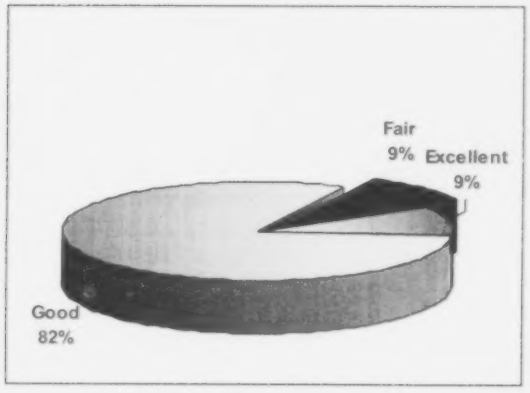
Overall – Secondary Issues Raised	· Concerns were raised about the requirement for bonding from various different Ministries and the potential for other jurisdictions to require bonding in the future, such as regional districts. · Questions regarding the further harmonization of the provincial and federal environmental assessment processes · BC Hydro assets should be retained to maintain low electricity prices · Questions regarding exploration of the Nechako basin and when this will be complete · Question about the negotiations for the establishment of the Regional Transmission Organization (RTO) and the splitting of electricity generation and transmission in B.C.
Further Community Information Needs	
Other Notes	
Selected Participant Quotes	· "The new reality is that the biggest challenge for mining operations is developing a relationship with First Nations. That is not only the new reality in BC, but anywhere in Canada. The Ministry has to help the mines to build that relationship."

Views on the Consultative Meeting

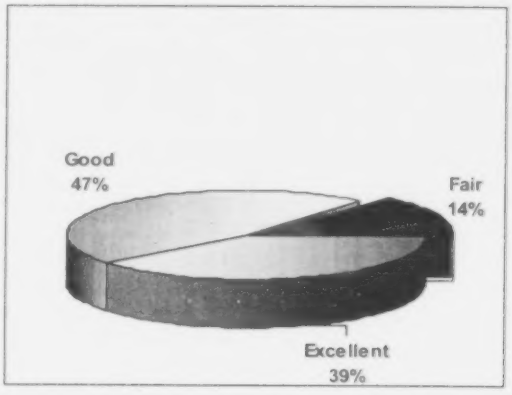
Participants were asked to complete an Exit Survey at the end of the day, with the following results:

- When asked to rate the value of the community meeting as an effective forum:
  - 91% rated the event GOOD or EXCELLENT as an effective forum for learning about BC's energy and mineral potential;
  - 86% rated the event GOOD or EXCELLENT as an effective forum for providing them with an opportunity to have their questions answered

Learning About BC's Energy and Mineral Potential



Opportunity to Have Questions Answered



WILLIAMS LAKE INSERT

The mining industry has played a major role in driving and sustaining the economy of the Williams Lake region over the years.

Current Activity

A number of existing mines in the region are on "stand-by" status owing to a variety of factors, most notably low commodity prices. These include the Gibraltar and Mount Polley mines. The re-opening of these mines would have a major direct and indirect employment impact on the region.

The economics of each operation is re-evaluated on a regular basis while cost-reduction alternatives to traditional mining costs, milling and metal recovery, such as hydrometallurgical processing and new power generation are being investigated.

The Gibraltar mine, located 60 km north of Williams Lake, operated from 1972 to 1998, producing 877,000 tonnes of copper, over 9,000 tonnes of molybdenum, 3.4 million ounces of silver and 4,600 ounces of gold. Gibraltar was known as being a very efficient producer, mining perhaps the lowest grade of copper ore (about 0.3%) of any of the large porphyry deposits.

The current owner, Taseko Mines Limited, has been investigating the potential application of innovative hydrometallurgical technology through an onsite copper refinery that would produce copper metal rather than copper concentrate.

Imperial Metals Corporation's Mount Polley copper-gold mine, near Likely, is currently on 'stand-by', after ceasing operations on October 13, 2001. When it operated, the mine employed about 240 workers. Proven reserves at the cessation of mining in 2001 totalled 31.9 million tonnes. Investigations are ongoing to determine processes that would improve the economics of the deposit.

Cross Lake Minerals Ltd. optioned the dormant QR gold mine, located 58 kilometres southeast of Quesnel, from owner Kinross Gold Corporation. Additional reserves are the subject of exploratory drilling.

Future Development

Taseko Mines also owns the Prosperity project (formerly Fish Lake), a large undeveloped copper-gold deposit located 130 km southwest of Williams Lake. Estimated, measured and indicated resources, within an open pit designed for a potential 70,000 tonnes per day operation, are 491 million tonnes grading 0.22% copper and 0.43 grams of gold per tonne, containing 2.3 billion pounds of copper and 6.7 million ounces of gold. Increasing metals prices present an excellent opportunity to re-assess the huge resource at Prosperity.

There are a number of other prospective mining developments in the region.

Although placer mining activity is down in recent years the improvement in the price of gold is expected to result in an upswing in placer mining and testing in the Cariboo (and throughout the province).

In 2002, a handful of larger mineral development programs that are accessed through Williams Lake occurred on the Cariboo River, near Likely (downstream from historic Quesnel Forks); a site located on the south bank of the Cariboo River, near the confluence of Spanish Creek; Noble Metals' deposit near the present course of Keithley Creek; the Golden Horn property on Cedar Creek; and; a claim located immediately upstream of Quesnel Forks, on the south side of the Cariboo River.

There are also a number of early-stage mining prospects east of Williams Lake, in the Likely and Horsefly areas. These include the Woodjam property, near Horsefly; the Megabuck prospect, first identified and later drilled in the mid 1970s; the Redgold property, centred 3 kilometres south of Quesnel Lake; the Rim (Dot Com) copper property, located just west of Horsefly; and the Frank Creek and Ace polymetallic volcanogenic massive sulphide prospects, located immediately south and east of Cariboo Lake. The area is under-explored and the likelihood for exploration success on these early stage projects is excellent.

Nechako Basin-Hydrocarbon Potential

Drilling in this region underlying the Chilcotin Plateau began in the 1930's and continued sporadically for 50 years until the collapse of energy prices in the 1980's brought exploration to a close. To date only 12 exploratory wells have been drilled. While no commercial discoveries of oil or gas have yet been made, oil staining in chip samples and the recovery of minor volumes of natural gas during well testing indicates the presence of a hydrocarbon system. Geological Survey of Canada estimates of in place resources are more than 9 trillion cubic feet of natural gas and 5 billion barrels of oil. Recent initiatives by the Ministry of Energy and Mines have focused on gaining more information regarding the petroleum geology of the Nechako Basin and its surrounding areas.

Electricity Development

There are several electricity generation projects being examined in the Williams Lake area. These include a five megawatt hydroelectric project at the Gibraltar mine (McLeese Lake); a cogeneration project at 100 Mile House to utilize wastewood; the Quesnel Green Power project, proposed by Pristine Power Inc., to utilize waste heat and; the Duke Transmission waste heat recovery project at Quesnel proposed by Taylor NGL LP.